Degrees and Minutes of Arc

One degree is sixty minutes of arc and one minute of arc is $1/60^{th}$ of a degree and one nautical mile. If you were to divide 21,600 minutes of arc which is 360 degrees by two pi the result is the radius of 360 degrees.

C and Grid Time (Cathie Grid)

Taking one nautical mile as being 1,852 metres:

$$\frac{299{,}792{,}458\ \mathrm{m/s}}{1{,}852} = 161{,}874.977321\ \ldots \text{nautical mile per sec.}$$

161,874.977321… nautical miles per second is 161,874.977321 minutes of arc per second.

$$\frac{161{,}874.977321}{9} \quad 8 = \ 143888.868730,$$

Whenever the term grid time is used in this text the following equation is being referred to:

$$\frac{1\ \text{sec.}}{9} \quad 8 = \ 0.888888\ \text{grid seconds}$$

Gravitational Acceleration

Is an angular acceleration (the *rate of change* of angular velocity). and is treated as the letter m from the $E = mc^2$ equation and the reciprocal of c. [1] Assigning c an upper and lower limit of 144,000 minutes of arc per second and 143,000 minutes of arc per grid second in magnitude and referring the value 143,888.868730 as a *quantity*

$$\frac{1}{144{,}400} = \ 6.9444\ \ldots$$

Degrees per grid second squared?

[1] {Citation}

The D Field

The equation below being given by James Clerk Maxwell for the D field in a linear media.

$$\varepsilon E = D$$

Assigning epsilon (ε) the value of one over c squared (4.822530…e-11), [2]

$$D = \frac{1}{E} = 0.0000069444 \ldots$$

Symbol: D

The E Field

The equation for which is also given by James Clerk Maxwell. [3] Likewise

$$E = \frac{1}{D} = 144{,}000 \text{ per grid/sec}$$

$$D = \frac{1}{E} = 0.0000069444 \ldots$$

Symbol: E

The Fine Structure Constant

$$\alpha = \frac{\Phi^2}{360} = 0.00727231 \ldots$$

Equation converted:

$$\alpha = \frac{1}{4\pi\varepsilon_0}\frac{e^2}{\hbar c} = 0.00727231 \ldots$$

Symbol: *a*

CODATA value: 7.297 352 5664(17) x 10^{-3}

[2] {Citation}
[3] {Citation}

Pi

Pi throughout this book is assigned the value 3.1416407… through the following equation. Please feel free to use an alternate value for pi if that is your preference.

Phi

The golden ratio.

$$\text{Phi} = 1 : \frac{1+\sqrt{5}}{2} = 1 : 1.618033 \ldots$$

Symbol:

Psi

Twice Phi

$$\text{Psi} = 1 : 1+\sqrt{5} = 1 : 3.236067 \ldots$$

Symbol:

One Coulomb

Psi

The Elementary Charge

$$e = \frac{\psi}{\sqrt{1440}} = 0.0852778 \ldots$$

Equation converted:

$$e^2 = \frac{2\ \alpha}{u_0 c} = 0.0852778 \ldots$$

The elementary charge squared gives the same value as the fine structure constant.

Symbol: e

CODATA value: 1.602 176 6208(98) x 10^{-19} C

Planck's Constant

Two pi.

Symbol: h

CODATA value: 6.626 070 040(81) x 10^{-34} J s

Mu Naught

$$\mu_0 = \frac{4\pi}{144{,}000} = 8.726779\text{e}\quad 5$$

Equation converted:

$$\mu_0 = \frac{2a}{\text{e}^2}\frac{}{\text{c}} = 8.726779\text{e}\quad 5$$

Planck's constant (h) in the equation above that is converted from is taken as two pi and c as 144,000 minutes of arc per grid second. With 2a representing twice the fine structure constant. The value assigned to e2 is that of the fine structure constant.

Symbol: u_0
CODATA value: 12.566 370 614... x 10^{-7} N A^{-2}

The Bohr Radius

The reciprocal of the fine structure constant and the most probable distance between the proton and the electron of the hydrogen atom.

$$\frac{1}{a} = 137.5077640\ldots$$

$$a_0 = \frac{\hbar}{m_e ca} = 137.5077640\ldots$$

The symbol m_e is assigned the value of the D field.

Symbol: a_0
CODATA value: 0.529 177 210 67(12) x 10^{-10} m

The Bohr Radius and Pi

$$\frac{432}{a_0} = 3.1416407\ldots$$

Coulombs Constant

Like the E field, Coulombs constant has the same value as c from the $E = mc^2$ equation.

$$K\varepsilon = \frac{1}{4\pi\varepsilon_0} = 144{,}000$$

Equation converted:

$$K\varepsilon = \frac{1}{4\pi\varepsilon_0}$$

Symbol: Kε

Epsilon Naught

$$\varepsilon_0 = \frac{1}{4\pi \quad c} = \ 5.526128 \quad 7 \ldots$$

Equation converted:

$$\varepsilon_0 = \frac{e2}{2\alpha hc} = \ 5.526128 \quad 7 \ldots$$

Symbol: ε_0

CODATA value: 8.854 187 817... x 10^{-12} F m^{-1}

Planck

Which is not Planck's constant. Psi times Phi.[4]

[4] {Citation}